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NASA SCIENTIFIC BALLOON SETS WORLD RECORD

Slowly rising from the Northwest region of Manitoba, Canada, near a small gold mining town called Lynn Lake, a massive NASA balloon began a journey, August 25, that took it to the fringes of space. Silently drifting in the rarefied upper edges of our atmosphere, the scientific balloon reached a peak altitude of 161,000 feet (49 kilometers), and with a volume of 60 million cubic feet (1.7 million cubic meters), was the largest balloon ever launched successfully.

The balloon carried a solar and heliosphere experiment called Low Energy Electrons (LEE), weighing 1,500 pounds (690 kg), that was provided by Dr. Paul Evenson of the University of Delaware.

“Aside from our excitement and the fact that this balloon established a new record for balloon volume (50 percent greater than NASA’s standard balloon designs), this flight should help establish a new platform for science such as ultra-violet and x-ray astronomy”, said Steve Smith, chief of NASA’s Balloon Program Office at Goddard Space Flight Center’s Wallops Flight Facility, Wallops Island, Va.

NASA’s scientific balloons are constructed of very thin polyethylene material, (.8 mil), about the same thickness as an ordinary sandwich wrap. NASA’s largest standard balloon is approximately 40 million cubic feet (1.13 million cubic meters) and reaches an altitude of approximately 130,000 feet (39.6 kilometers). The system includes a balloon, a parachute and a payload that carries instruments necessary to conduct scientific experiments.

"In addition to the great science Dr. Evenson is doing, this is a demonstration that balloons can reach extreme altitudes with relatively heavy payloads," said Danny Ball, Site Manager, National Scientific Balloon Facility, Palestine, Texas. "We hope this will lead to new interest from other science disciplines needing very high altitudes."

This flight was the sixth flight for the LEE payload in a series of balloon observations of cosmic electrons. Five previous flights have used both the LEE and the Anti-Electron Sub Orbital Payload (AESOP) instrument provided by Dr. John Clem, also from the University of Delaware's Bartol Research Institute.

Both instruments flew from Lynn Lake, on Aug. 13, 2002, on a 40 million cubic foot balloon that reached an altitude of 134,000 feet (41 kilometers). The total flight time was 23 hours, 14 minutes. Once the experiment was complete, a radio command was sent from a ground station to separate the experiment from the balloon. The command created a tear in the balloon material permitting it to fall to Earth. A parachute floated the experiment payload back to the ground. Science team members were taken to the landing site for recovery of data tapes within two hours of impact.

The LEE instrument was refurbished and launched again on Aug. 25, 2002, on the 60 million cubic foot balloon. As of noon EST on August 26, the flight was still in progress.

The LEE and AESOP instruments were flown in 1997, 1998, 1999, and 2000. Roughly 120 hours of data have been collected during the previous flights. All of the launches have been from Lynn Lake, which is 650 miles (1,000 kilometers) from Manitoba. Although originally funded by NASA, the National Science Foundation currently funds research activities using the AESOP experiment. The LEE instrument was originally developed and flown by NSF and later flown by NASA.

The Wallops Flight Facility manages NASA's Scientific Balloon Program for the Office of Space Science, Washington. Launch operations are conducted by the National Scientific Balloon Facility, which is managed for NASA by the Physical Sciences Laboratory of New Mexico State University, Las Cruces. Raven Industries, Inc., Sioux Falls, SD, designs and manufactures NASA's scientific balloons. The balloon for this launch was built in their plant in Sulphur Springs, Texas.

For more information on NASA's Scientific Balloon Program visit:
http://www.wff.nasa.gov/pages/scientificballoons.html

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